



# Air Force Research Laboratory|AFRL

*Science and Technology for Tomorrow's Air and Space Force*

## Success Story

### AEROSPACE ENGINEER EDUCATES FUTURE ENGINEERS



Dr. J. Stebbins Shelley, of the Propulsion Directorate, was named the mechanical engineering professor for the new Lancaster University Center in Lancaster, California, through an educational partnership agreement (EPA). The center will be a 4-year university site for California State University, Fresno and Bakersfield campuses. The directorate's Edwards Research Site uses EPAs to support and enhance an engineering education pathway with skilled educators and laboratory equipment.



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### **Accomplishment**

Dr. Shelley is an aerospace engineer at the directorate's Edwards Research Site. Through the EPA, she will remain a government employee detailed to Cal State-Fresno's College of Engineering and Computer Science, where she will bring a wealth of practical experience to the classroom. Dr. Shelley worked for the directorate after receiving her bachelor's degree in aerospace engineering at Penn State. After progressing through engineering efforts to increase complexity in both solid and liquid rocket propulsion technology, the directorate provided her with an opportunity for enhanced education. Specializing in material sciences, she received her master's and doctorate in mechanical engineering from the University of Utah. Since receiving her degrees, she has specialized in leading research and development efforts on materials that can be employed to enhance the performance and durability of liquid rocket engines.

### **Background**

Anticipating a nationwide shortfall of qualified engineering students and graduates, Congress has provided defense laboratories with the ability to make EPAs with educational institutions, a provision known to some as "growing your own." Noting the lack of a 4-year university setting in the Antelope Valley, directorate leadership worked with many organizations through the valley's unique Math Science Engineering Consortium, to influence and sponsor educational efforts that affect kindergarten through level-16 students.

The Lancaster University Center engineering labs and instructors represent the result of those efforts. Edwards Research Site's educational outreach program also conducts science fair judging; student- and teacher-oriented math, science, and chemistry programs for students; science teacher in-service education sessions; special lab tours; and career programs that start with summer intern programs for high school and college students.

Propulsion  
Awards and Recognition

### **Additional Information**

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (04-PR-29)